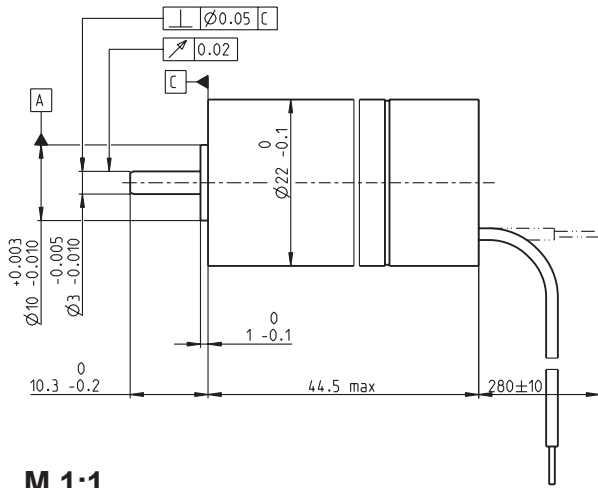
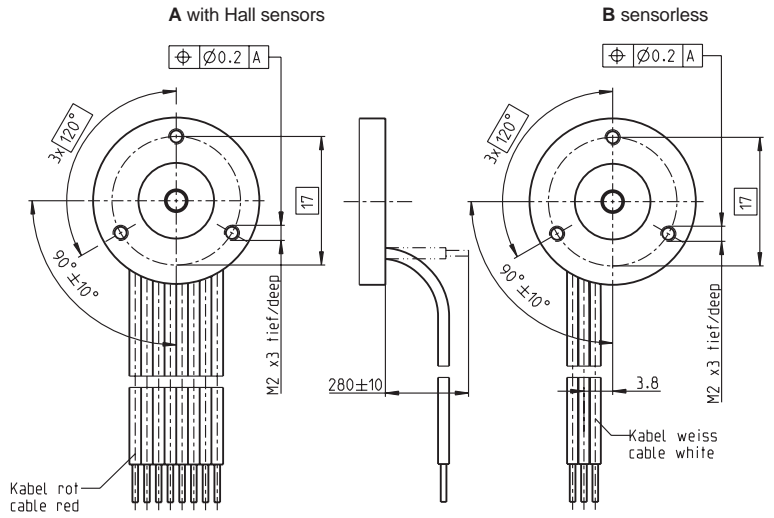


EC 22 Ø22 mm, brushless, 40 Watt

sterilizable



M 1:1



- Stock program
- Standard program
- Special program (on request)

Part Numbers

	386665	386666	386667	386668
A with Hall sensors				
B sensorless	386669	386670	386671	386672

Motor Data

Values at nominal voltage		12	24	36	48
1 Nominal voltage	V	12	24	36	48
2 No load speed	rpm	36100	41700	41800	44900
3 No load current	mA	327	198	132	110
4 Nominal speed	rpm	31700	37800	37900	41000
5 Nominal torque (max. continuous torque)	mNm	17.1	16.8	16.7	16.1
6 Nominal current (max. continuous current)	A	5.67	3.23	2.14	1.68
7 Stall torque	mNm	155	204	210	219
8 Stall current	A	49.1	37.4	25.7	21.5
9 Max. efficiency	%	85	86	86	86
Characteristics		12	24	36	48
10 Terminal resistance phase to phase	Ω	0.244	0.641	1.4	2.23
11 Terminal inductance phase to phase	mH	0.0182	0.0546	0.123	0.189
12 Torque constant	mNm/A	3.15	5.46	8.18	10.1
13 Speed constant	rpm/V	3030	1750	1170	941
14 Speed/torque gradient	rpm/mNm	235	206	200	206
15 Mechanical time constant	ms	5.2	4.54	4.41	4.56
16 Rotor inertia	gcm ²	2.11	2.11	2.11	2.11

Specifications

Thermal data		
17 Thermal resistance housing-ambient	10 K/W	
18 Thermal resistance winding-housing	2 K/W	
19 Thermal time constant winding	4.85 s	
20 Thermal time constant motor	278 s	
21 Ambient temperature	-40...+135°C	
22 Max. winding temperature	155°C	
Mechanical data (preloaded ball bearings)		
23 Max. speed	60000 rpm	
24 Axial play at axial load < 4.5 N	0 mm	
	> 4.5 N	max. 0.14 mm
25 Radial play	preloaded	
26 Max. axial load (dynamic)	4 N	
27 Max. force for press fits (static) (static, shaft supported)	53 N	
	250 N	
28 Max. radial load, 5 mm from flange	16 N	
Other specifications		
29 Number of pole pairs	1	
30 Number of phases	3	
31 Weight of motor	85 g	

Values listed in the table are nominal.

Connection A and B, motor (Cable AWG 22)

red	Motor winding 1
black	Motor winding 2
white	Motor winding 3

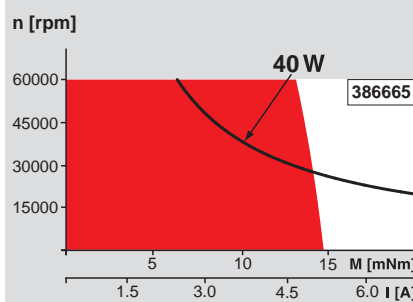
Connection A, sensors (Cable AWG 26)

green	VHall 3...24 VDC
blue	GND

red/grey	Hall sensor 1
black/grey	Hall sensor 2
white/grey	Hall sensor 3

Wiring diagram for Hall sensors see p. 33

Operating Range



Comments

- Continuous operation**
In observation of above listed thermal resistance (lines 17 and 18) the maximum permissible winding temperature will be reached during continuous operation at 25°C ambient.
= Thermal limit.
- Short term operation**
The motor may be briefly overloaded (recurring).
- Assigned power rating**

Application



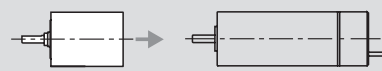
- Orthopedic Drills & Saws
- Surgical Reamers
- Arthroscopic Shavers
- Surgical Staplers
- Dental Tools

Sterilization information

Sensorless:	typically 1000 autoclave cycles
Hall sensor:	typically 500 autoclave cycles
Sterilization with steam	
Temperature	+134°C ± 4°C
Compression pressure up to	2.3 bar
Rel. humidity	100 %
Cycle length	18 minutes

maxon modular system

Planetary Gearhead
sterilizable
Ø22 mm
0.5 - 2.0 Nm
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Overview on page 20–25

Recommended Electronics:	Notes	Page 24
ESCON Module 24/2		378
ESCON 36/3 EC		379
ESCON Mod. 50/4 EC-S		379
ESCON Module 50/5		379
ESCON 50/5		380
ESCON 70/10		380
DEC Module 24/2, 50/5		382